hp OpenView storage area manager Brocade device plug-in installation instructions

This Device Plug-In (DPI) enables Storage Area Manager support for various Brocade and Hewlett-Packard interconnect devices. See the “what’s new” section for changes provided by this version of the DPI.

Running the installation wizard automatically installs the necessary files in the appropriate Storage Area Manager directories.

supported devices

This DPI provides Storage Area Manager support for the following devices:

Device[1]	HP Model	DPI Version	Change	Required Firmware Version
HP StorageWorks core switch 2/64	A6509A	03.00.D	Update	4.0.0c or 4.0.2b
HP StorageWorks san switch 2/32	311026-B21	03.00.D	Update	4.0.2b
HP StorageWorks msa SAN switch 2/8	288247-B21	03.00.D	No change	3.0.2k
HP Surestore FC 1Gb/2Gb Entry Switch 8B	A7346A/AZ	03.00.D	No change	3.0.1b or 3.0.2f
HP Surestore FC 1Gb/2Gb Switch 8B	A7347A/AZ	03.00.D	No change	3.0.1b or 3.0.2f
HP Surestore FC 1Gb/2Gb Switch 16B	A7340A/AZ	03.00.D	No change	3.0.1b or 3.0.2f
HP Surestore FC Switch 6164	A7326A/AZ	03.00.D	No change	a2.4.1 or 2.6.0c
HP Brocade Silkworm 2800 Fibre Channel Switch	A5624A/AZ	03.00.D	No change	a2.4.1 or 2.6.0c
HP Brocade Silkworm 2400 Fibre Channel Switch	A5625A/AZ	03.00.D	No change	a2.4.1 or 2.6.0c
HP Surestore Switch F16	A5223A/AZ A5224A/AZ	03.00.D	No change	1.6d2
Compaq StorageWorks Fibre Channel SAN Switch Integrated/64		03.00.D	No change	2.4.0a or later
Compaq StorageWorks Fibre Channel SAN Switch Integrated/32		03.00.D	No change	2.4.0a or later
Compaq StorageWorks Fibre Channel SAN Switch 2/16		03.00.D	No change	3.0.2f
Compaq StorageWorks Fibre Channel SAN Switch 2/16 EL		03.00.D	No change	3.0.2f
Compaq StorageWorks Fibre Channel SAN Switch 16		03.00.D	No change	2.0 or later
Compaq StorageWorks Fibre Channel SAN Switch 16 EL		03.00.D	No change	2.0 or later
Compaq StorageWorks Fibre Channel SAN Switch 2/8		03.00.D	No change	3.0.2f
Compaq StorageWorks Fibre Channel SAN Switch 8		03.00.D	No change	2.0 or later
Compaq StorageWorks Fibre Channel SAN Switch 8 EL		03.00.D	No change	2.0 or later
Brocade Silkworm 12000		03.00.D	Update	4.0.0c or 4.0.2b
Brocade Silkworm 6400		03.00.D	No change	2.4.0a or later
Brocade Silkworm 3900 Fibre Channel Switch		03.00.D	Update	4.0.2b
Brocade Silkworm 3800 Fibre Channel Switch		03.00.D	No change	3.0.1b or 3.0.2f
Brocade Silkworm 3200 Fibre Channel Switch		03.00.D	No change	3.0.1b or 3.0.2f
Brocade Silkworm 2800 Fibre Channel Switch		03.00.D	No change	2.0 or later

Device[1]	HP Model	DPI Version	Change	Required Firmware Version
Brocade Silkworm 2400 Fibre Channel Switch		03.00.D	No change	2.0 or later
Brocade Silkworm 2250, 2240, and 2210 Fibre Channel Switches		03.00.D	No change	2.1.3 or later
Brocade Silkworm 2100 Fibre Channel Switch		03.00.D	No change	2.0 or later
Brocade Silkworm 2050, 2040, and 2010 Fibre Channel Switches		03.00.D	No change	2.1.3 or later

[1] The models supported also include IBM, Compaq, and EMC versions of the Brocade device. Firmware version 2.6.0c is required for these devices. Due to device firmware, these models will be displayed as a Brocade switch. This does not apply to the HP labeled switches.

[2] The HP StorageWorks msa SAN switch 2/8 is now supported as an optional embedded switch within the HP StorageWorks MSA 1000. This version of the Brocade DPI (03.00.C) is required in configurations that include this optional switch.

what's new

Version **03.00.D** of the Brocade DPI fixes the following defects:

- Performance data was not displayed in Storage Optimizer for the Brocade Silkworm 3900 and HP StorageWorks san switch 2/32 switches. This was due to a packaging error in the 03.00.C version of the DPI. This defect was not present in previous versions of the Brocade DPI.
- If a Brocade Silkworm 12000 or HP StorageWorks core switch 2/64 had cards inserted in other than contiguous left-to-right order, then some attachments were reported for the wrong port. This resulted in incomplete or inaccurate device maps.
- Disabling and then re-enabling an intermediate slot (any slot other than the last slot) on the Brocade Silkworm 12000 or HP StorageWorks core switch 2/64 resulted in Storage Area Manager displaying incorrect port information, inaccurate device maps, and additional storage networks.

Version **03.00.C** of the Brocade DPI:

- introduces Storage Area Manager support for the HP StorageWorks msa SAN switch 2/8. This model is now supported as an embedded switch within the HP StorageWorks MSA 1000.
- fixes the following defects:
  - the Brocade Silkworm 3900 Fibre Channel Switch was incorrectly identified as an HP StorageWorks san switch 2/32
  - the Compaq StorageWorks Fibre Channel SAN Switch 2/16 EL was not being discovered
  - in some cases, Storage Area Manager was reporting incorrect number of ports for the Brocade Silkworm 12000 and HP StorageWorks core switch 2/64
  - Storage Area Manager was unable to display zoning information for storage networks that include Brocade Silkworm 12000 or HP StorageWorks core switch 2/62 switches.

Version **03.00.B** of the Brocade DPI:

- introduces Storage Area Manager support for the following interconnect devices:
  - HP StorageWorks san switch 2/32
  - Brocade Silkworm 3900 Fibre Channel Switch
- extends supported firmware versions for the following interconnect devices:
  - HP StorageWorks core switch 2/64
  - Brocade Silkworm 12000
- fixes a defect in which the portion of the DPI that supports the Brocade Silkworm 12000 and HP StorageWorks core switch 2/64 caused numerous inferred hubs to incorrectly appear in the device map

features

The following Storage Area Manager applications and features are supported by this DPI.

Device[1]	Storage Node Manager	Storage Optimizer[2]	Storage Builder	Storage Accountant	Storage Allocater
HP StorageWorks core switch 2/64	X	X			
HP StorageWorks san switch 2/32	X	X			
HP StorageWorks msa SAN switch 2/8	X	X			
HP Surestore FC 1Gb/2Gb Entry Switch 8B	X	X			
HP Surestore FC 1Gb/2Gb Switch 8B	X	X			
HP Surestore FC 1Gb/2Gb Switch 16B	X	X			
HP Surestore FC Switch 6164[3]	X	X			
HP Brocade Silkworm 2800 Fibre Channel Switch	X	X			
HP Brocade Silkworm 2400 Fibre Channel Switch	X	X			
HP Surestore Switch F16	X	X			
Compaq StorageWorks Fibre Channel SAN Switch Integrated/64	X	X			
Compaq StorageWorks Fibre Channel SAN Switch Integrated/32	X	X			
Compaq StorageWorks Fibre Channel SAN Switch 2/16	X	X			
Compaq StorageWorks Fibre Channel SAN Switch 2/16 EL	X	X			
Compaq StorageWorks Fibre Channel SAN Switch 16	X	X			
Compaq StorageWorks Fibre Channel SAN Switch 16 EL	X	X			
Compaq StorageWorks Fibre Channel SAN Switch 2/8	X	X			
Compaq StorageWorks Fibre Channel SAN Switch 8	X	X			
Compaq StorageWorks Fibre Channel SAN Switch 8 EL	X	X			
Brocade Silkworm 12000	X	X			
Brocade Silkworm 6400[3]	X	X			
Brocade Silkworm 3900 Fibre Channel Switch	X	X			
Brocade Silkworm 3800 Fibre Channel Switch	X	X			

Device[1]	Storage Node Manager	Storage Optimizer[2]	Storage Builder	Storage Accountant	Storage Allocater
Brocade Silkworm 3200 Fibre Channel Switch	X	X			
Brocade Silkworm 2800 Fibre Channel Switch	X	X			
Brocade Silkworm 2400 Fibre Channel Switch	X	X			
Brocade Silkworm 2250, 2240, and 2210 Fibre Channel Switches	X	X			
Brocade Silkworm 2100 Fibre Channel Switch	X	X			
Brocade Silkworm 2050, 2040, and 2010 Fibre Channel Switches	X	X			

[1] The models supported also include IBM, Compaq, and EMC versions of the Brocade device. Due to device firmware, these models will be displayed as a Brocade switch. This does not apply to the HP labeled switches.

[2] See the "Performance Metrics" section for a list of Storage Optimizer performance metrics supported by this DPI.

[3] Storage Area Manager discovers, maps, and displays performance data as six Brocade Silkworm 2250 switches.

requirements

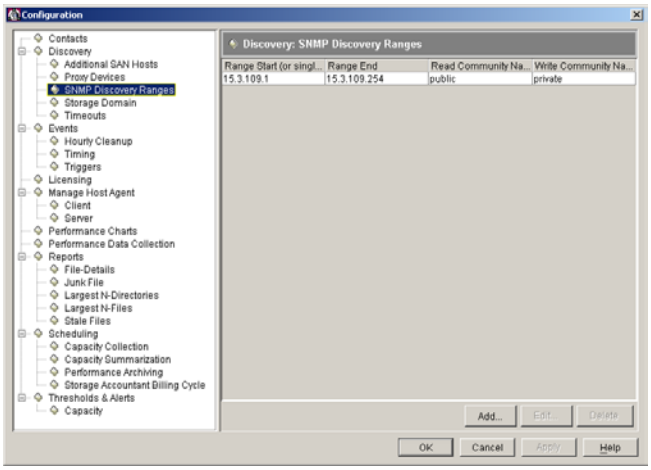
This section describes the requirements necessary to successfully install this DPI.

- HP OpenView Storage Area Manager 3.0 must be installed on a management server.
- Each switch must have the required version of firmware installed. See the "supported devices" section for required firmware versions.

configure Storage Area Manager

This DPI requires configuration changes within Storage Area Manager to ensure that all switches within your storage network and supported by this DPI are discovered by Storage Area Manager. Verify that the IP address(es) of all applicable switches are within Storage Area Manager's SNMP discovery range.

1. Open Storage Area Manager if it is not already open.
2. From the **Tools** menu, select **Configure**.
3. In the Configuration window's navigation tree, expand the **Discovery** menu, then select **SNMP Discovery Ranges**.



4. If necessary, modify the discovery range to include the IP addresses of all switches in the storage network that are supported by this DPI.
5. Verify that the Read Community and Write Community Names for the applicable discovery range(s) match those of the switches in the storage network that are supported by this DPI.

Tip

Create a unique discovery range for the switch(es) if the switch's Read Community and Write Community Names are different than those of other devices within the same SNMP discovery range.

install the dpi on the management server

Caution To ensure proper installation of this DPI, use this procedure rather than Window's Add/Remove Programs utility when updating the DPI.

1. Exit Storage Area Manager on the management server and any management clients.
2. Download the DPI executable to any location on the management server.
3. Go to the location where you downloaded the DPI and run the executable (**Brocade_DPIUpdate_3_00_D.exe**). The installation wizard starts and the OVSAM DPI Maintenance window appears.
4. Select the **Reinstall DPI** radio button, and click the **Next** button. A confirmation message appears asking if you want to update this DPI.

Note If the 03.00.A version of this DPI is installed on the management server, the Reinstall DPI option is not available. Click the **Next** button to continue with installation of the DPI.

5. Click the **Yes** button to continue.
6. Verify that the **I would like to restart the OVSAM Services** checkbox is checked, and click the **Finish** button.
7. Start Storage Area Manager.

Note Retain this DPI executable file. You will need it if you choose to uninstall this DPI in the future.

verify dpi installation

After you successfully complete the installation procedure, any switches supported by this DPI and within the SNMP discovery range will begin to appear in Storage Area Manager's device map and Resources tree as part of Storage Area Manager's ongoing discovery process.

You can also start a comprehensive discovery cycle within Storage Area Manager by selecting **Start Comprehensive Discovery** from the **Tools** menu.

performance metrics

This DPI supports the following performance metrics for the switches it supports and displays the metrics within the Storage Optimizer application.

- DeviceTransmittedBytes
- DeviceReceivedBytes
- DeviceTransmittedFrames
- DeviceReceivedFrames
- DeviceTotalErros
- DeviceInvalidCRCs
- DeviceLinkFailures
- DeviceSynchronizationLosses
- DeviceSignalLosses
- DevicePrimitiveSequenceProtocolErrors
- DeviceInvalidTransmissionWords
- PortTransmittedFrames
- PortReceivedFrames
- PortTransmittedBytes
- PortReceivedBytes
- PortTotalErrors
- PortTransmittedWords
- PortReceivedWords
- PortReceivedClass3Frames
- PortReceivedClass2Frames
- PortReceivedLinkControlFrames
- PortReceivedMulticastFrames
- PortTransmittedMulticastFrames
- PortTruncateErrors
- PortTooLongErrors
- PortEOFErrors
- PortEncodingDisparityOutsideErrors
- PortEncodingDisparityInsideErrors
- PortOrderedSetErrors
- PortClass3DiscardedErrors
- PortMulticastTimedOutErrors
- PortTooManyRdyErrors
- PortTxNoCreditErrors
- PortInvalidCRCs

- PortLinkFailures
- PortSynchronizationLosses
- PortSignalLosses
- PortPrimitiveSequenceProtocolErrors
- PortInvalidTransmissionWords

known issues and limitations

- Windows' Add/Remove Programs utility is not a supported method for updating or uninstalling this DPI. You must use the procedures described in this document in order to successfully update or uninstall the DPI.
- Due to a device firmware limitation, disabling and then re-enabling a slot or port on the Brocade Silkworm 12000 or HP StorageWorks core switch 2/64, results in Storage Area Manager displaying incorrect port information, inaccurate device maps, and additional storage networks.
- In configurations in which ports are trunked, Storage Area Manager displays the link between the master ports only. However, Storage Optimizer collects and displays performance data for all ports.

  If a condition occurs in which the master link fails and one of the slave links becomes the master link, Storage Area Manager will show the previous, failed master link as broken (red) and add the new master link to the device map. However, if the previous master link returns to Normal status and is reinstated as the master link, Storage Area Manager will continue to show the previous condition.

Note The issue described above only affects the Brocade Silkworm 3800 and 3200 Fibre Channel Switches and the HP Surestore FC 1GB/2GB Switch 16B and 8B. The issue is resolved with firmware version 3.0.2f.

uninstalling the dpi

If, in the future, you want to uninstall this DPI, complete the following procedure.

Caution To ensure proper uninstallation of this DPI, use this procedure rather than Window's Add/Remove Programs utility.

1. Exit Storage Area Manager on the management server and any management clients.
2. Go to the location where the Brocade DPI executable (**Brocade_DPIUpdate_3_00_D.exe**) is located and run the executable. The installation wizard starts and the OVSAM DPI Maintenance window appears.
3. Select the **Remove DPI** radio button, and click the **Next** button. A confirmation message appears asking if you want to remove this DPI.
4. Click the **OK** button to continue.
5. Verify that the **I would like to restart the OVSAM Services** checkbox is checked, and click the **Finish** button.
6. Start Storage Area Manager.
7. Delete each device supported by this DPI from the user interface by right-clicking it in the Resources tree or device map and selecting **Delete <device name>** from the shortcut menu.

Note Once the DPI is uninstalled from the management server, Storage Area Manager displays Unknown/Unreachable status for devices supported by the DPI until they are deleted from the user interface.

8. Start Storage Area Manager.
9. Delete each device supported by this DPI from the user interface by right-clicking it in the Resources tree or device map and selecting **Delete <device name>** from the shortcut menu.

Note Once the DPI is uninstalled from the management server, Storage Area Manager displays Unknown/Unreachable status for devices supported by the DPI until they are deleted from the user interface.